

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number  
**WO 2004/038531 A3**

(51) International Patent Classification<sup>7</sup>: **G06F 1/00**

[JP/JP]; 7-23-6-201, Tamagawagakuen, Machida-shi, Tokyo 194-0041 (JP). **SATO, Junichi** [JP/JP]; 460-310, Nogaya-machi, Machida-shi, Tokyo 195-0053 (JP). **TAKEI, Ichiro** [JP/JP]; 2-4-10-208, Matsunoki, Suginami-ku, Tokyo 166-0014 (JP). **ITO, Tomoaki** [JP/JP]; 3-7-11-302, Minamiikuta, Tama-ku, Kawasaki-shi, Kanagawa 214-0036 (JP).

(21) International Application Number:  
**PCT/JP2003/013405**

(22) International Filing Date: 21 October 2003 (21.10.2003)

(25) Filing Language: English

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(26) Publication Language: English

(30) Priority Data:  
2002-311815 25 October 2002 (25.10.2002) JP  
2003-133566 12 May 2003 (12.05.2003) JP  
2003-324805 17 September 2003 (17.09.2003) JP

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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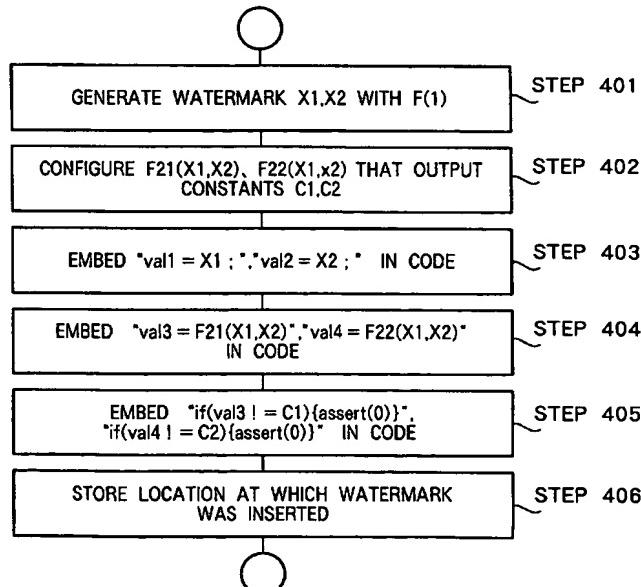
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

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(75) Inventors/Applicants (*for US only*): **SATO, Yuji** [JP/JP]; 3-33-17-304, Sugao, Miyamae-ku, Kawasaki-shi, Kanagawa 216-0015 (JP). **YAMAGUCHI, Takao**

*[Continued on next page]*

(54) Title: WATERMARK INSERTION APPARATUS AND WATERMARK EXTRACTION APPARATUS



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(57) Abstract: The present invention generates watermark from ID information that uniquely identifies a program distribution destination, inserts the generated watermark in a program, and prevents the program from operating correctly if the watermark is tampered with, and also inserts the same watermark verification code in a program regardless of the distribution destination. By this means, it is possible to prevent detection of watermark verification code constituting a watermark by means of collusion attack.



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**(15) Information about Correction:**

**Previous Correction:**

see PCT Gazette No. 29/2004 of 15 July 2004, Section II

**Published:**

— *with international search report*

**(88) Date of publication of the international search report:**

25 November 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 03/13405

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G06F1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>COLLBERG C S ; THOMBORSON C: "Watermarking, tamper-proofing, and obfuscation - tools for software protection" IEEE TRANS. SOFTW. ENG. (USA), IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, AUG. 2002, IEEE, USA, vol. 28, no. 8, August 2002 (2002-08), pages 735-746, XP002276100 ISSN: 0098-5589</p> <p>Y</p> <p>page 737, left-hand column, 4 last lines page 737, right-hand column, 2 first dots page 740, right-hand column, line 3 - line 8 page 741, left-hand column, line 20 - line 25 page 743, right-hand column</p> <p>-----</p> <p>-/-</p>	1-3,6-9, 11
		4

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search

31 August 2004

Date of mailing of the international search report

10.09.2004

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/JP 03/13405

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01/69355 A (MICROSOFT CORP) 20 September 2001 (2001-09-20) page 5, line 30 - page 6, line 25 -----	4
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 06, 22 September 2000 (2000-09-22) & JP 2000 076064 A (HITACHI SOFTWARE ENG CO LTD), 14 March 2000 (2000-03-14) cited in the application abstract -----	1-9,11
X	PALSBERG J ET AL: "Experience with software watermarking" 11 December 2000 (2000-12-11), COMPUTER SECURITY APPLICATIONS, 2000. ACSAC '00. 16TH ANNUAL CONFERENCE NEW ORLEANS, LA, USA 11-15 DEC. 2000, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, PAGE(S) 308-316 , XP010529828 ISBN: 0-7695-0859-6 Section 2.3 Section 3.2 -----	10,12-21
A	WO 99/01815 A (COLLBERG CHRISTIAN SVEN ;LOW DOUGLAS WAI KOK (NZ); THOMBORSON CLAR) 14 January 1999 (1999-01-14) figures 2c-2g the whole document -----	10,12-21

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 03/13405

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0169355	A	20-09-2001	AU WO	3486101 A 0169355 A1	24-09-2001 20-09-2001	
JP 2000076064	A	14-03-2000	NONE			
WO 9901815	A	14-01-1999	AU CA CN EP JP US WO	7957998 A 2293650 A1 1260055 T 0988591 A1 2002514333 T 6668325 B1 9901815 A1	25-01-1999 14-01-1999 12-07-2000 29-03-2000 14-05-2002 23-12-2003 14-01-1999	

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP 03/13405

### Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of Invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9,11

Claims 1-9,11 refers to a watermark insertion apparatus, method and program inserting a watermark verification code and to corresponding extraction apparatus.  
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2. claims: 10,12-21

Claims 10,12-21 refers to a watermark insertion method, apparatus and program using obfuscating and to corresponding watermark extraction apparatus.  
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/JP 03/13405

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0169355	A	20-09-2001	AU WO	3486101 A 0169355 A1	24-09-2001 20-09-2001	
JP 2000076064	A	14-03-2000	NONE			
WO 9901815	A	14-01-1999	AU CA CN EP JP US WO	7957998 A 2293650 A1 1260055 T 0988591 A1 2002514333 T 6668325 B1 9901815 A1	25-01-1999 14-01-1999 12-07-2000 29-03-2000 14-05-2002 23-12-2003 14-01-1999	